

## PATENT CLAIMS

1. Hair treatment preparation in the form of a gel, containing water-swollen particles of superabsorbing polymer.
2. Preparation according to Claim 1, characterized in that the average diameter of the water-swollen polymer particles is below or equal to 2000  $\mu\text{m}$  and preferably from 40 to 1400  $\mu\text{m}$ .
3. Cosmetic preparation in gel form according to one of the preceding claims, characterized in that at the interface with gaseous substances the preparation forms reversibly a grainy, uneven, light-scattering surface and at the interface with a solid it forms reversibly a smooth, level, non-light-scattering surface.
4. Cosmetic preparation in gel form according to one of the preceding claims, characterized in that a superabsorbing polymer is used to form the gel structure.
5. Cosmetic preparation in gel form according to Claim 4, characterized in that the superabsorbing polymer is selected from the group consisting of superabsorbing crosslinked polyacrylic acids, polymethacrylic acids and graft copolymers of starch and acrylic acid, the polymers possibly being in neutralized or partly neutralized form as salts.
6. Cosmetic preparation in gel form according to Claim 4 or 5, characterized in that, before water absorption, the superabsorbing polymer has an average particle size from 100 to 850  $\mu\text{m}$  and preferably less than 200  $\mu\text{m}$ .
7. Cosmetic preparation in gel form according to one of Claims 4 to 6, characterized in that the superabsorbing polymer has a water absorption capacity (centrifuge retention capacity) for demineralized water of at least 20 g/g.
8. Hair-styling or hair-care preparation containing
  - (A) at least one superabsorbing polymer and
  - (B) at least one second polymer selected from the group consisting of hair-fixing polymers and hair-care polymers.
9. Hair-styling or hair-care preparation according to Claim 8, characterized in that the superabsorbing polymer contained therein is in the form of undissolved, water-swollen polymer particles.
10. Hair-styling or hair-care preparation according to Claim 8 or 9, characterized in that polymer (B) is selected from the group consisting of film-forming, hair-fixing nonionic polymers.

11. Hair-styling or hair-care preparation according to Claim 10, characterized in that polymer (B) is selected from among polyvinylpyrrolidone, polyvinylcaprolactam or a copolymer with at least one additional nonionic monomer.
12. Hair-styling or hair-care preparation according to one of Claims 8 to 11, characterized in that the superabsorbing polymer (A) is present in an amount from 0.05 to 20 wt. %.
13. Hair-styling or hair-care preparation according to one of Claims 8 to 12, characterized in that the second polymer (B) is present in an amount from 0.1 to 30 wt. %.
14. Use of a cosmetic preparation in gel form, containing undissolved, water-swollen particles of a superabsorbing polymer for hair-end protection in permanent wave treatment of hair.
15. Use according to Claim 14, characterized in that the average diameter of the water-swollen polymer particles is less than or equal to 2000  $\mu\text{m}$  and preferably from 40 to 1400  $\mu\text{m}$ .
16. Use according to Claim 14 or 15, characterized in that the superabsorbing polymer is selected from the group consisting of superabsorbing crosslinked polyacrylic acids, polymethacrylic acids and graft copolymers of starch and acrylic acid, the polymers possibly being in neutralized or partly neutralized form as salts.
17. Use according to one of Claims 14 to 16, characterized in that, before water absorption, the superabsorbing polymer has an average particle size from 100 to 850  $\mu\text{m}$  and preferably less than 200  $\mu\text{m}$ .
18. Use according to one of Claims 14 to 17, characterized in that the superabsorbing polymer has a water absorption capacity (centrifuge retention capacity) for demineralized water of at least 20 g/g.
19. Use according to one of Claims 14 to 18, characterized in that the preparation has a solids content of superabsorbing polymer from 0.1 to 5 wt. %.
20. Foil or paper for wrapping hair ends, characterized in that the foil or paper is impregnated or coated with an aqueous preparation containing at least one superabsorbing polymer.
21. Method for permanent shaping of hair whereby the hair, before and/or after it was held in the desired shape, is treated with a shaping preparation, rinsed with water, oxidatively post-treated, again rinsed with water and optionally arranged in a water wave and then dried, characterized in that, before the hair is treated with the shaping preparation, it is treated with

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